

Still, Pentecost added that qualifier—"However, sales could falter if interest rates rise substantially this year," she said.

The Spectre Of High Interest

Karl Motter Jr., manager of marketing information at AP Parts Co., elaborated on the threat of higher interest rates. "The large national debt still looms as the major enemy of the somewhat shaky interest rates," he said. "The prime rate will move up during the year as the government bids on the available funds. This will start to dampen consumer confidence in the latter part of 1984 and the beginning of 1985."

On a brighter note, Motter predicted stable fuel prices this year and next, plus he pointed to the explosion in interest in mini-vans.

"The mini-van appears to be the bright spot in new vehicle sales," he said. "Chrysler appears to have a step up on the other OEs with its front-wheel-drive offering. Room plus handling put it in first place."

On the question of whether the UAW will strike against GM or Ford

this fall, we received a resounding agreement with our last month's informal poll (see May '84, "Strike Survey: Conflict Or Cooperation?" p. 24). Of the 11 analysts responding, eight, or 73%, said 'yes' with all but one of those indicating GM as the target. Comments by Predicasts' chief economist and research director were typical.

Rank-And-File Impatient

"Although UAW officials still talk of job security as being 'at the top of the agenda,' rank-and-file members have been getting impatient," said Predicasts' Thomas Kevin Swift. "They want to regain some of the billions in economic concessions made 2 years ago in exchange for somewhat improved job security."

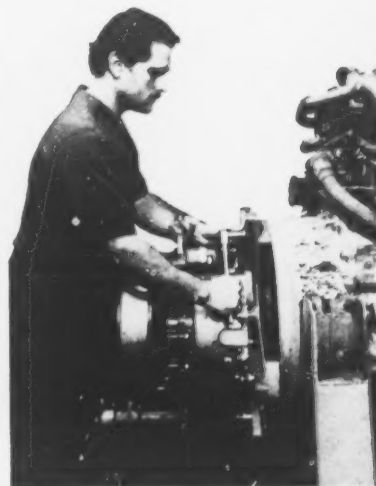
"If rank-and-file members settle for nothing less than the *previously* surrendered \$1.30 to \$1.50 per hour concessions," he continued, "the competitive gap between domestic and Japanese producers would widen further. Any gains by the UAW beyond this would place the domestic industry on a noncompetitive footing even more serious than the one it was on 3 years ago."

"My view of the industry environment, consequently, indicates the impracticality and ill-timing of a strike by the UAW," Swift said. "However, hotter heads generally prevail in these matters. Consequently a strike will probably be likely against GM. September 14th should prove to be an interesting day in the industry's history indeed!" ■

Reported by Lori J. Roberts and Elizabeth Capelli

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	Sanford C. Bernstein & Co.	Morgan Guaranty Trust	Average
	8.06 10.75	8.1 10.5	7.8 10.4
	2.3 3.5	3.3 3.8	2.7 3.5
	Yes	Yes	
	GM	GM	

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From Nissan's large Cedric to Honda's hot little City Turbo II, from Subaru's innovative Justy 4wd to Mazda's sports/luxury Cosmo coupe—there's a world of Japanese cars not sold here.

NEXT MONTH

What are the best, most productive machine tool systems (and assembly plants using them) worldwide? We examine that question, plus report on the International Machine Tool Show next month.

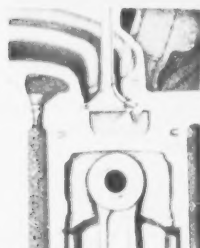
QUOTABLE

"One of the first records this management achieved was to lose \$3½ billion."—vice chairman Gerald Greenwald on Chrysler's losses.

"Where in the hell do they think we got the capital to gamble on mini-vans at \$700 million three years ago? We were crazy then because we figured we were so much in hock, what's another \$700 million?"—chairman Lee Iacocca on Chrysler's profits.



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AI MARKETDATA

Japanese Profits: 50% Come From US

"The US market will continue to be the biggest profit center for Japanese automakers, since total volume of imported Japanese cars will be fixed and demand for them will remain very strong," says Daiwa Securities Co. Ltd. of Tokyo. "Although total car exports to the US account for less than 20% of total shipments, more than half of total profits is estimated to come from the US market." Also: "Protectionist sentiment in the US and Europe and domestic production policies in developing nations will promote overseas production by Japanese automakers. Their overseas production is estimated to increase from 1.6 million units in 1983 to 3.8 million in 1988 with an annual compound rate of some 20% (their overseas production ratio will rise from 13% in 1983 to 24% in 1988). In particular, car production in the US is projected to amount to 800,000 units in 1988."

This Fall: The Rise of VWoA?

Rampant rumors regarding VW's revised Golf and Jetta, due in the US this October and January, respectively: Some sources claim the standard Golf (as VW's newest putter will probably be called in the US as well as Europe) will get a detuned GTI 1.8-L engine, which would likely mean the GTI will get an even hotter engine. The new Jetta, introduced in Europe at the Geneva Show, may be VW's real street fighter, though. In GLI trim it's rumored to get VW's hot 16-valve engine. (Audi's 4000 [Audi 80 in Europe] is also reskinned this summer and will likely use the 16-valver in US trim). Surprisingly, one company official admits that VWoA expects to sell more Jettas than Golfs in the US in calendar year '85.

World Growth Seen In Passenger Cars

World passenger car sales will reach over 31 million cars this year, says Data Resources International (DRI) of London. The bad news is, says DRI, "The cyclical rebound of the mature markets however will be spent by 1985. Over the decade the developed world will settle to growth rates ranging from 1½% to 2½%, whereas the rapidly developing economies of Asia/Pacific and some parts of Africa and the Middle East will grow at rates in the 6% to 7% average annual growth range."

As far as the actual making of cars goes, DRI notes the shift by carmakers toward building in the market country, a la Honda, Nissan, et al. "Final assembly, accounting for some third of the total value-added of a car, is now a capital intensive rather than labor intensive process," says DRI. "The labor input to final assembly is becoming much less important as a proportion of total cost, thus eroding the penalty of [producing] in a higher wage country."

New Car Sales (Millions) Car Production (Millions)

	1983	1984	1990	1983	1984	1990
W. Germany	2.43	2.47	2.64	3.88	3.91	4.22
France	2.02	1.84	2.29	2.96	2.76	2.97
UK	1.79	1.71	1.81	1.05	1.06	1.04
Italy	1.58	1.66	1.79	1.40	1.48	1.63
W. Europe	10.47	10.44	11.61	11.10	11.05	11.87
USA	9.18	10.57	11.46	—	—	—
N. America	—	—	—	7.79	9.03	9.54
Japan	3.14	3.17	3.59	7.15	7.25	8.22
World	29.36	31.22	36.20	—	—	—

Source: DRI World Automotive Forecast Report May 1984

Buying Hol-Sale

In the future, new car dealers could use video simulation or even holography to display a car to a potential customer, predicts Dave Cole, director of the office for the study of transportation at the University of Michigan. The car could be 'optioned out' so the customer could actually see all the color and trim combinations that are available. Then, with CRTs located at the dealership, the customer could order the car by directly accessing the assembly plant's computers. By combining high-tech marketing and manufacturing, Cole says, consumers will be provided with greater choices and faster deliveries, plus be certain that what they get is what they saw.

INSIDE JAPAN'S AUTO INDUSTRY

AI's Detroit editor, John McElroy, recently toured various automotive facilities in Japan. Here is the first report on his observations of the Japanese auto industry.

by John McElroy

Nobody looks forward to a 20 hour plane trip to Tokyo, but I was glad the trip was finally under way. It had taken 3 months to select the sites, make all the arrangements and to get the budget approved. And as I settled into the cramped seat in the back of the 747, I heaved a sigh of relief. All the planning that could be done, had been done. Now it was time to get on with it.

Two faces of Japan — The bustling congestion of a street scene in Tokyo's Ginza district contrasts sharply with the serene grandeur of Nagoya Castle.



WHAT IF?

If the voluntary import restrictions expire next April, Japanese automakers are ready to step in with the right products at the right price.

by John McElroy

The moment you step out of Narita airport to catch a bus to Tokyo it hits you . . . They're everywhere. Between the taxis, the buses and the cars that people are driving up to the terminal, you can practically see every type of passenger vehicle that is built in Japan.

And what variety! Big cars, small cars, econoboxes, limousines, vans, trucks and buses. Diesels, turbos, twin cams and turbocharged twin cams. Notchbacks, hatchbacks, sedans and two-seaters. Not to mention the ubiquitous buzzing motor-scooters. And all of them are

Nissan's hot Skyline RS and (inset) Mazda's luxurious Luce are two examples of the breadth of Japanese products not available here.



INSIDE JAPAN

For quite some time I'd been anxious to get to Japan. I like to travel, but the real purpose of this trip was something more of an intelligence-gathering mission. Not that there was anything secret or sinister about it—quite the opposite. The idea was to cram as many plant tours and interviews as possible into 2 weeks and make this information available to you, our readers.

Sure, every American car company, all the auto analysts and plenty of suppliers have sent delegations over to tour the Japanese auto facilities. There have even been books written about it. But a lot of people haven't gone and maybe you're one of them.

So what makes this story any different from the rest of them? Hopefully it will provide you with the objective observations of a journalist. Better

AI's tour of Japan included these plants located in different areas around the country.



WHAT IF?

surging and ebbing, speeding and slowing as they make their way up the left hand side of the road through some of the thickest traffic in the world.

What the first time visitor can't help but notice is that the Japanese automakers build cars that fit into virtually every single market segment—everything from 550 cm³ runabouts to rear-wheel-drive, V8 powered, body-on-frame limousines. Most Americans are unaware of the rich product variety the Japanese produce because the country only exports about one-third of the models it produces. But if the Voluntary Restraint Agreement (VRA) expires next April, that could all change.

Primed And Ready To Go

At this point no one knows whether the VRA will be allowed to lapse. But one thing is certain. It will be a political decision. We already know what it's like to live with import restrictions, so let's assume for the moment that they come off next year, and let's analyze the possibilities that could unfold.

First, there could be a virtual tsunami of Japanese cars flooding the market. Estimates within the US auto industry predict the Japanese could sell another million units on top of the 1.85 million units currently covered by the VRA. Some predict the Japanese could take 30% of the market, with total imports taking 40%. One thing is certain—the Japanese automakers have the capacity in place to sell a lot more cars here.

Another possibility is that the VRA could be extended, with each Japanese automaker given a greater number of cars it could bring in.

And then it's possible (maybe even likely) that the VRA will be allowed to lapse, but that some branch of the Japanese government, such as MITI, will step in to regulate the flow of cars to something like a 10% increase per year.

But whatever scenario develops, you can be sure the Japanese automakers will be able to bring in a greater variety of products. By establishing assembly operations in the US they will be able to bring in other products even if the VRA continues beyond 1985.

A Car For Every Purse & Purpose

And their products are priced right. Not only do the Japanese automakers enjoy tax and currency advantages, their overall productivity provides them with a cost advantage well over \$2000 per car.

In their home market, the Japanese automakers are into virtually every market segment that exists. So they have plenty of models to fit into new market niches if they get the opportunity to export them. Although the great majority of these cars are clustered in the sub-compact area, they have products that range all the way to the very upper end of the market.

One area that they are particularly interested in establishing in the US is the mini-car market. With 1.0-L engines that yield very high fuel economy and prices that start under \$5000, these make ideal cars for the first time buyer, or even second cars for multi-car families.

Honda, Subaru, Nissan, Suzuki and Toyota (via Daihatsu) all have entries in this market segment. And they're not buzzy little tin can cars. They're very good products. The latest entry in this segment, the Subaru Justy, of-

still, perhaps these stories will be able to bring alive the flavor and essence of the people and places that comprise the Japanese auto industry—something a technical report would never do.

East/West Comparisons

Another major difference will be relating what I saw in Japan to what I've seen in the US. For the last year I've toured many automotive factories around the American Midwest to establish a baseline for comparison with facilities in Japan. And I talked to many American executives to determine what they look for when they take plant tours and how they measure the efficiency of an operation.

My American tours included visits to the oldest and the newest plants, ones that make big cars and small cars, ones that make engines or transmissions, and even a look at stamping operations. I tried to take in the latest American technology such as GM's Lake Orion and Chrysler's Windsor

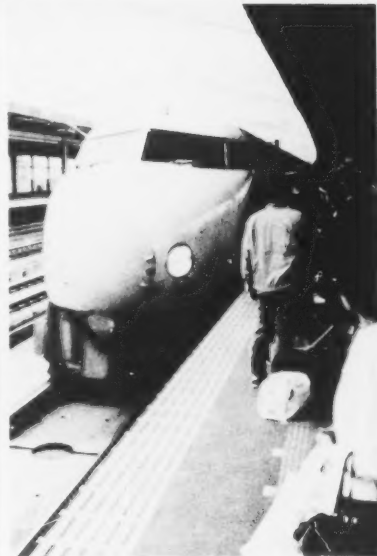
Assembly plants, and other places where productivity has been increased with better management techniques instead of technology, such as Ford's Wayne Assembly plant.

To get a handle on future operations I interviewed the people who are putting Buick City and the Saturn Project together. To find out what the domestic automakers are doing about their employee relations, I talked to people involved with GM's QWL (Quality Of Work Life) and Ford's EI (Employee Involvement) programs, and to some of the top people in the UAW. The idea is to provide you with information that will not only let you see how your operations stack up against the Japanese, but how your competition does too.

Tedious Logistics

Unlike the American car companies, the Japanese automakers are a lot more careful about who they let

(Continued)



The best way to travel around Japan to visit the different auto plants is on the bullet train (Shinkansen) which cruises at 120 mph. Ironically, although Japan's trains are super efficient, none of the automakers uses trains to move inventory.

fers 4WD and CVT (Continuously Variable Transmission) options. Honda's City Turbo II with intercooler will blow the doors off most sports cars.

The only cloud on the mini-cars' horizon is how they will fare with US safety standards.

Specialty Segment Hot

Another hot market segment in Japan are personal specialty cars. These

tend to be sporty versions of high volume models, but with significantly different sheet metal and more powerful engines. Size-wise, the personal specialty cars tend to be in the subcompact segment, but they also stretch beyond the compact segment into the intermediate segment.

Going the other way altogether, Toyota has a mid-engine, two-seat sports car code-named SV3 that may well have been introduced in Japan

by the time you read this.

Of course, the big question for the American (and European) automakers is what plans the Japanese have for the full-size and luxury market. For the most part, the Japanese don't have many cars in these segments, but it's an area they're watching very closely. Mazda, for example, has recently redesigned the 929 (Cosmo), and in styling and execution it's not unlike a Volvo 760. And Honda has everyone guessing if its XX car, the one it will develop and build jointly with Rover, will place it head-to-head with Mercedes-Benz.

At the very top end of the market both Toyota and Nissan build rear-wheel-drive, V8 powered limousines in very small volume for fat cats and diplomats. Although they are 1960s vintage designs, all it would take is for either company to get really serious about competing in this market segment before they would have products that could challenge GM's and Ford's big cars.

Performance Big In Japan

Not only do the Japanese have a

(Continued)

Output Per Employee

(Vehicles Per Year)

Manufacturer	1977	1978	1979	1980	1981	1982	1983
General Motors	12.0	12.0	11.3	10.3	9.8	10.0	11.7
Ford	14.6	13.7	13.1	11.5	11.9	12.5	14.3
Chrysler	13.7	13.0	12.0	11.0	14.0	14.2	16.4
Toyota	59.0	62.0	63.0	69.0	66.7	61.0	58.0*
Nissan	NA	43.0	47.5	49.5	49.4	48.0	44.0
Mazda	28.0	33.0	37.0	42.8	45.5	43.4	NA
Honda	--	--	--	--	--	44.0	43.0
Subaru	--	--	--	--	--	--	46.5
Suzuki	--	--	--	--	--	--	72.8

Source: Automotive Industries magazine

*includes Toyota Motor Sales personnel, otherwise would be 64.0.

Though the US automakers have increased their productivity in the last few years, the Japanese automakers are still more efficient. And they have been able to translate this efficiency into a \$2,000 cost advantage.

INSIDE JAPAN

into their plants and what they'll let them see. Initially, I tried to set up this trip going through the Japan Automobile Manufacturers Assoc. (JAMA), figuring it would be easier to go through one source. At first they consented, but then backed off. Before any Japanese car company would agree to let me in, they wanted to know exactly which plants I wanted to tour and a list of the questions I wanted to ask.

What ensued was a flurry of letters, phone calls and telegrams between my office in the Fisher Building in Detroit and the Japanese automaker's offices in the US and Japan. It took several months to nail down the dates and places that I would visit. But planning out every last detail later proved to be very beneficial. Since I was traveling by myself and I don't speak a lick of Japanese it was important to lay out all the groundwork in advance. As a result, the whole trip

went off without a hitch.

What I saw really opened my eyes. It's one thing to read about how the Japanese operate, but it's quite another thing to see it for yourself. It convinced me that the secret of Japanese efficiency is no secret at all.

For one thing, they don't do it with high technology or greater numbers of robots. My American plant tours showed me that the US automakers actually have newer and more sophisticated technology than the Japanese. What the Japanese taught me is that you can't measure an operation by the sophistication of its technology. Instead, you have to measure its overall efficiency.

In fact, the most astonishing revelation of all was to see what is probably the world's most efficient engine plant operating with 20-year-old American equipment.

The Most Efficient Operations

I'll save the details for later, but let me say that I probably saw the

world's most efficient assembly plant and also the fastest assembly line. I saw die changes in 5 minutes in new plants, and 30 minutes in plants that also used old American presses.

The Japanese showed me how they operate at bare minimum inventory levels with just-in-time production. They showed me machining operations where rejects average only 0.5%! What I saw was an almost fanatical devotion to quality. All the employees pitch in and constantly improve their processes.

Most importantly, what I saw was a host of techniques and processes that could be copied here in the US with virtually no capital investment.

The main thing I learned is that you can't buy Japanese productivity. I doubt very much that the American auto industry is going to be able to solve its problems by spending money on new technology. Nor can this industry continue to pin its problems on an undervalued yen or commodity tax rebates. These are genuine con-

WHAT IF?

host of different products to cover the market spectrum, they have an incredible amount of parts and components to provide their customers with the convenience and efficiency they want.

Performance is a hot item in Japan these days and there is an incredible variety of powertrains to suit a multitude of different tastes. Although Nissan recently developed a V6 and Honda is working on one for the XX car, larger engines are taxed heavily in Japan. So, the most popular powerboosting option is the turbocharger. Several models are available with intercoolers as well. In fact, over 8% of all Japanese cars sold last year were fitted with turbos.

But the turbo is not limited to expensive performance models. It's even available in the 550 cm³ runabouts made by Mitsubishi, Daihatsu and Suzuki.

Those who don't find turbos to their taste can select from a number of twin cam engines. Like turbos, these engines are very popular and were installed in 7% of all cars sold in

Small Car Safety—A Can Of Worms?

When you open that can labeled automotive safety facts, beware of worms. "In a 2000 lb car, overall, your risk of being killed [if you are in an accident] is around twice as much as in a 4000 lb car," says David Martin, GM's director of automotive safety on the Environmental Activities staff. But then you're significantly *less likely to be in an accident* in a small car than in a large car.

While drivers of small cars are generally younger than drivers of large cars, "young drivers in small cars are less involved in accidents than young drivers in large cars," Martin says. Why? "I think there's a tendency for people to recognize they're more at risk. There's less sound deadening, the ride is less sound deadening, the ride is less boulevard, so your perception of speed is greater," he says.

"Then too, seat belt usage in

smaller cars is greater. Overall in the US about 14% wear seat belts. In small cars it's 20%; while in some big cars it's down around 10% or less. The following distance in a smaller car is greater, too," he says.

"Put it in perspective and consider life expectancy effects," Martin says. "If as a youngster you decide you're going to always use larger cars, you'll add about 2½ months to your life.

"If you decide at the same age to always wear seatbelts," no matter the size of the car, "you'll add about the same to your life expectancy."

"If at the same age you decide you're never going to let your weight get 20% above normal, you'll add 2½ years to your life. If you avoid cigarette smoking, you'll add 6½ years," says Martin. ■ —Douglas Williams

Japan last year. They are available in a variety of different displacements, including a 1.6-L version, complete with a variable induction system, that Toyota installs in the Corolla and Sprinter. And if you spell your performance with a capital P, both Toyota

and Nissan have turbocharged twin cam engines available.

Electronics Everywhere

Transmissions, like so many other components, are being fitted with electronic controls. Nissan has had an

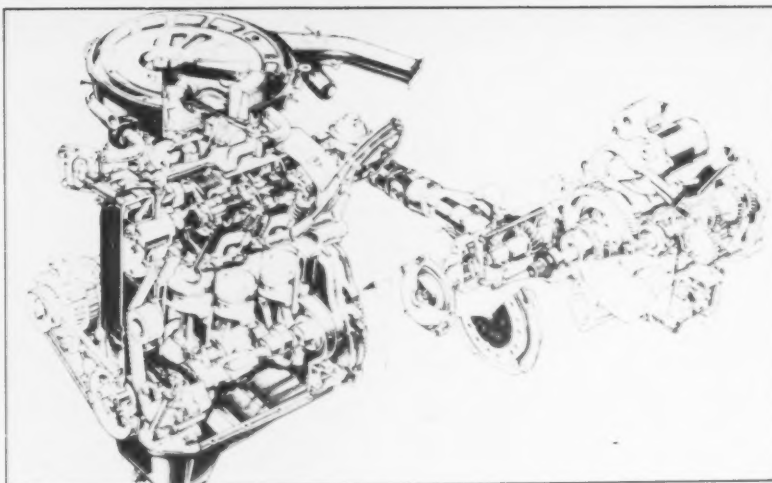
cerns, to be sure. But far better the US industry spend its efforts fixing those things it can directly control, starting with its basic manufacturing operations.

Free R&D For You

Viewed in business terms this trip really represents an investment in research and development by *Automotive Industries*. We're going to make this R&D available to you in a series of stories over the coming months that will cover assembly, stamping, engine and transmission operations, quality systems, just-in-time systems and employee relations.

We hope you will find some piece of information or some tidbit that you'll be able to put to work in your own operations. Most of this information won't be of a technical nature. After all, I'm a journalist, not a manufacturing expert.

But anyone who survived the 1979-1982 automotive disaster knows the stakes are too high to let that happen

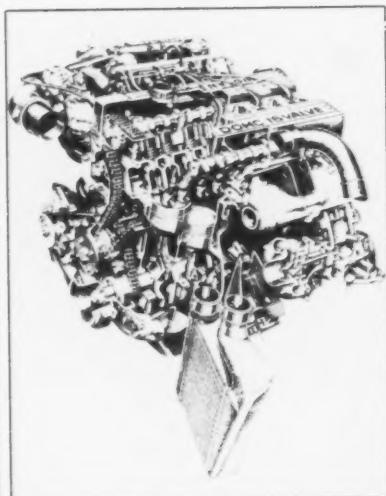


again.

Let me just pass this along. After several of my Japanese plant tours, my hosts sat me down and asked me how I thought they could improve their operations. And they weren't just being polite. They had their notebooks out and were scribbling down what I said. What this showed me is

An example of the technical innovations being introduced in Japan is the powertrain of Subaru's transverse engine, four-wheel-drive Justy.

that the Japanese are willing to learn from anyone, even an American journalist. ■



The hottest engines in Japan, like this one from Nissan's Skyline RS, use four valves per cylinder, double overhead cams, fuel injection, turbocharging and intercooling.

electronically controlled four-speed automatic for rear-wheel-drive (rwd) cars on the market for about a year now. And Toyota recently introduced an electronically controlled four-

speed transaxle for the rwd Corolla. As if that isn't enough, Isuzu is developing a five-speed automatic, and Mitsubishi's electronically-controlled transmission allows the driver to select from three different shift modes.

Adjustable operating parameters seem to be a trend that has carried over into suspensions. Nissan, Toyota, Mitsubishi and Mazda all have adjustable suspensions available on certain car lines. Nissan's Bluebird, for one, even has adjustable power steering.

Electronics is the technical arena where the Japanese are proving to be truly creative. A complete list of electronic components would be too lengthy to document here, but it's fascinating to touch on some of the more far-out ideas that are available in the market today:

- Nissan's Safety Drive Adviser monitors the driver's normal steering habits for the first 10 minutes of driving. If it detects a deviation from this style due to drowsiness, it beeps and flashes a warning light.

- Nissan has also developed rain-sensitive windshield wipers that activate when it's raining, and adjust the intermittent sweep according to the

intensity of the rain.

- Toyota has developed a sonar back-up warning device that lets the driver know if someone or something is behind the car. The closer the car gets to the object as it backs up, the louder the warning beep.

- At least three Japanese automakers sell navigation systems in certain cars.

- Perhaps the epitome of electronic self-indulgence is the rear seat vibrator that is available on the Mitsubishi Sigma Royal.

Profits Poured Into Product

Although many items the Japanese have developed are gimmicky and sometimes seem to have been developed more for their novelty rather than any real benefit to the customer (such as talking dashboards), it shows that the Japanese are the innovators today. But the real message here for the American automakers is that it shows the Japanese are pouring their profits back into their product line. ■

(Continued)

WHAT IF?



Japanese Cars Not Sold In The American Market

MANUFACTURER	2-SEATERS	MINI	SUB-COMPACT	COMPACT	INTERMEDIATE	LUXURY	4X4
Toyota	SV-3	Starlet	Corolla Carina Corona Sprinter Corsa	Vista	Crown Chaser Cresta Soarer	Century	
Nissan		March (Micra)	Pulsar Sunny Langly Prairie Liberta Villa Laurel Spirit Auster Bluebird Silvia/Gazelle	Leopard Skyline	Laurel Cedric/Gloria	President	Safari
Mazda				Luce Cosmo			
Mitsubishi		Minica	Mirage II Lancer Lancer Fiore Galant Galant Lambda		Debonair		Jeep K-J44
Honda		City	Ballade Vigor Quint				
Isuzu			Florian Aska				
Subaru		Rex Justy					
Suzuki		Fronte Cervo Alto					SJ410
Daihatsu (Toyota Group Company)		Cuore Charade	Charmant				Taft

Some cars listed here may be familiar to you and others may not. Some have certain models that are sold in the US and some represent the same cars that are marketed through different dealers under different names. Though not all of these cars would be exported to the US, it shows that the Japanese automakers cover virtually every market segment.

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US MEDIUM TRUCKS Dieselization: Is The Medium The Real Message?

The dieselization of medium trucks continues even as the future effectiveness of those trucks in the US is questioned. Is the end in sight for gas-powered mediums? All the coming imports are diesel... and IH makes it official—no more medium-duty gas engines

by Douglas Williams

Cummins and Onan are two large and important firms that, with all due respect, your average UPS delivery man or bread truck driver has probably never heard of.

But both Cummins and Onan are making major moves at those and most other medium truck drivers. That fact tells about as much as anything about the impending turmoil and change facing the medium truck world and the diesel business within it.

Onan is well known internationally as a manufacturer of generator sets, plus the diesels used in some of them. Until now though, the company has never made an engine for vehicles. Today if you've got a truck on the high end of light-duty or low end of medium-duty, Onan wants to talk to you.

Cummins, of course, makes very large diesel engines and is the dominant manufacturer of diesel engines for Class 8 trucks—the biggest over-the-road vehicles. It now commands something like 60% of that market, far and away ahead of Caterpillar and Detroit Diesel Allison.

Until now Cummins has survived and thrived without much attention to medium-duty diesels. But no longer. The company now has three separate new engines aimed specifically at medium trucks, and it's coming on strong.

Gas Power Gone?

Until about 15 years ago, medium trucks in the US were gasoline powered. Now International Harvester says it will end its gasoline engine production for medium trucks on December 1st. That will leave only Ford and General Motors as manufacturers of gasoline engines for medium trucks.

In the rest of the world, trucks of all



In Class 6, Ford sells its littlest big truck, the F600.

sizes are virtually all diesel powered. All of the importers, from Iveco, Mercedes and Volvo to Hino and Isuzu are dedicated exclusively to diesel engines.

Apart from engines, the whole medium truck picture is, at best, mixed.

Greg Pritz, product planning manager for small engines at Cummins, has one key question, "Will the polarization out of the middle range continue?"

In the US, largely because of tax laws

and regulatory decisions, there has been a desertion of truck manufacturing in the 10,000 to 16,000 lb (4536 to 7258 kg) GVW range. The market, and manufacturers supplying it, have pushed down toward the lighter vehicles and up toward the heavier to the point that vast numbers are manufactured below 10,000 lb and substantial numbers above 19,500 lb (8855 kg), but almost nothing in between. (Continued)



In Class 3 is Ford's biggest little truck, the F350. With the Class 4s and 5s?

Deregulation and a complete reshuffle of trucks and trucking taxation in the Surface Transportation Assistance Act of 1982 has brought about the change.

Cummins Sees Future Downturn

Now Pritz says that Cummins' numbers show the medium truck business for 1983 "trending down to about 93,000. In 1982 it was 98,000. It used to be 300,000-400,000," he adds. "We were calling for 1983 to be 110,000," Pritz says.

(Cummins defines, for its own use, medium trucks as trucks heavier than light-duty but still not the serious heavy-duty, over-the-road long distance haulers. This means they include trucks that are technically considered Class 8, or over 33,000 lb [14,968 kg] GVW, but in terms of desirable powerplant are medium-duty.)

Cummins estimates that 56½% of those medium trucks had diesel engines in 1983, compared to 52% in 1982. It uses a self-defined estimate of the "economically justified dieselization rate," to define where the market is going.

Diesel engines cost more than gasoline engines, of course. "But," says Pritz, "if you figure in the diesel premium today, probably two-thirds of the market would be justified if people really put the pencil to the paper and evaluated. We figure in the mid-range market people

'New' Players In The Game

Onan is aiming an inline diesel six at the medium truck world. It displaces 3.4 L (210 in.³) and puts out 120 hp @ 3600 rpm. Called the model L634T-A, it is turbocharged but not aftercooled (Onan's "A" designation means automotive), and has already received EPA certification.

The engine is from Onan's L-series, which started in production at Huntsville, AL in mid-1981. Merchandising manager John Patrek says, "It's beyond market seeding now; we're looking for serious applications."

The three Cummins engines newly aimed at medium trucks are the 4B and 6B, respectively 3.9 L inline four and 5.9 L inline six (239 and 359 in.³). The turbo six is being introduced now, rated at 160 hp @ 2500 rpm, for Class 5 and 7 trucks. "Six months later we'll add aftercooling, which will boost the horsepower up to 180,"

says John Garvey, Cummins' automotive production manager for small engines.

In September, the 4B will be introduced at 105 hp for Class 3 and 4 trucks. It will be followed in six months by an aftercooled version.

The 6C Cummins will debut in August 1985, aimed at the low end of the Class 7 "and into the Class 8 market," Garvey says. It's the biggest of the engines Cummins will be getting from its Rocky Mount, NC joint venture with JI Case. It'll be introduced as a 210 hp turbocharged engine and six months later aftercooled which will raise its output to 235 hp.

The Cummins 6C will displace 8.3 L (505 in.³).

The B and C engines will thus give Cummins new medium truck engine coverage of 105-235 hp. ■

are just a little more initial-price oriented."

Ford Mothballs The F500

Over at Ford, heavy truck marketing manager Jeffrey Kahn makes note of the fact that the company's F500 series me-

dium truck has simply gone by the boards in recent years. The biggest light truck Ford makes is the F350; the smallest heavy is the F600.

Asked specifically if Ford is looking to fill the gap between Class 3 and Class 6 trucks (10,000 to 19,500 lb GVW), Kahn